



PCT/AU00/01586

AU00/1586.

REC'D 30 JAN 2001

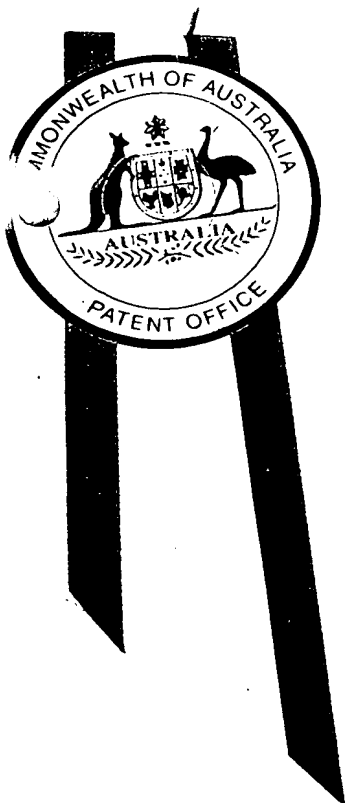
WIPO PCT

10/049538

Patent Office
Canberra

4

I, CASSANDRA RICHARDS, ACTING TEAM LEADER EXAMINATION
SUPPORT & SALES hereby certify that annexed is a true copy of the
Provisional specification in connection with Application No. PQ 6168 for a
patent by UNICOMP SOLUTIONS PTY LTD filed on 10 March 2000.



WITNESS my hand this
Eighteenth day of January 2001

CASSANDRA RICHARDS
ACTING TEAM LEADER
EXAMINATION SUPPORT & SALES

**PRIORITY
DOCUMENT**
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH RULE 17.1(a) OR (b)

This Page Blank (uspto)

ORIGINAL

COMMONWEALTH OF AUSTRALIA

Patents Act 1990

PROVISIONAL SPECIFICATION FOR THE INVENTION ENTITLED:-

SECURE DELIVERY SYSTEM

The invention is described in the following statement:

SECURE DELIVERY SYSTEM

The present invention relates to a secure delivery system for mail, packages and articles as well as apparatus necessary to perform such secure delivery system.

For many years mail has been utilised to deliver letters, documents and packages although there is general recognition in more recent times that this system is only capable of providing very low security. To this end insured mail deliveries and various forms of certified mail delivery with signatures required from the addressee have been devised although the system still lacks the security necessary in the modern age. Courier deliveries have become more popular and generally a signature is required in order to accept a courier delivery. Where the addressee is a home address however a signature can often not be obtained having regard to the fact that many households now contain two working partners who are away from the premises during daylight and hence most business hours.

The advent of E-commerce has further accentuated the poor security associated with existing mail delivery systems and has inhibited the growth of E-commerce. The nature of E-commerce is that a product may be purchased over the worldwide web but the product must still be physically delivered to the addressee. It is essential to the E-commerce merchant that receipt of the contracted articles can be confirmed. Due to

the abovementioned limitations of courier mail deliveries particularly to residential addresses such confirmation is not always possible. If a signature is required for the delivery and the premises is unattended then additional cost is incurred whilst trying to effect delivery at a alternative time. Signatures are also open to fraudulent manipulation particularly as the delivery person often has no signature with which to compare the signature which he or she may receive when delivering an article.

It is consequently an object of the present invention to provide a delivery system and associated apparatus which ameliorates one or more of the abovementioned security difficulties with existing systems or at least provides the market with an alternative.

According to the present invention there is disclosed a delivery system involving addressors, addressees and a service provider wherein the addressees are provided with a normally locked delivery box which delivery box is provided with an input device as well as communication means capable of transmitting messages from the input device to the service provider and also capable of receiving an unlock command from a service provider; a unique identifier associated with each addressee's delivery box; microprocessor and electronic storage means associated with a service provider remote from the delivery box and linked to communication means; means accessible to the addressor adapted to generate a code unique to each delivery intended to be effected by that

addressor through the system; the delivery box input device being capable of accepting a unique delivery code from a delivery person and in conjunction with the communication means transmitting same to the service provider for verification; reconciliation means associated with the microprocessor and electronic storage means of the service provider for verifying the authenticity of unique delivery codes received from particular delivery boxes; an electronically operable lock on the delivery box interfaced with the communication means of the delivery box such that a service provider may unlock the relevant box by transmission of an appropriately coded signal through the communication means to an individual delivery box in response to receipt of a correct unique delivery code received by the service provider from that box; means associated with the service provider's communication and storage means for recording the fact that a particular unique code has been utilised to open a particular delivery box.

According to another aspect of the present invention there is disclosed a lockable delivery box adapted to be placed in an accessible position; a locking device to govern access to the delivery box adapted for electronic control; an input device adapted to receive coded data; communication means associated with the delivery box adapted to receive and transmit data; the communication means being interfaced with the input device so as to be capable of transmitting coded information from the input device to a remote location; the communication means being interfaced with the

electronic locking device such that receipt via the communication means of an appropriate signal from a remote location may effect unlocking of the box.

Two embodiments of the present invention will now be described with reference to the accompanying flow charts wherein:

Figure 1 is a flow diagram indicating the steps necessary to be taken by addressors, addressees and service providers in the case where both the addressor and the addressee are businesses seeking to deliver letters or other objects to each other in a secure manner.

Figures 2 and 2A are flow charts indicating the steps which need to be taken to effect a secure delivery in accordance with the present invention as between a customer and a retailer.

Essential to the working of the system described hereafter in accordance with the present invention is the provision of a lockable delivery box at a delivery location. The delivery box may typically be located adjacent the front door to a premises much as a mail box is currently located. Alternatively groups of boxes may be centrally located in apartment blocks or warehousing situations. The box is however biased to a locked state and is provided with communication means which will usually comprise a telephone line. Alternatively wireless communication may be provided.

The communication device is associated with an input device so that direct communication is possible between the input device and a remote service provider. The communication device associated with the box is also interfaced with an electronic lock associated with the box in order that the box may receive commands from the service provider (and possibly other remote locations) instructing the lock to de-activate so as to permit access to the box. The electronic lock may be powered by battery or alternatively any other power source.

With reference now to the embodiment to which figure 2 applies it will be appreciated that the addressor is a retailer, the addressee is a customer of that retailer and there is also a service provider interposed between these two parties.

In the case of a purchase by the customer from the retailer utilising for example the Internet a customer would order goods via a web page from the retailer. In some cases the retailer's web page could be accessed via the service provider's web page in order that the consumer may be confident that secure delivery in accordance with the present invention will be available or alternatively the customer may go directly to the web page of a retailer who the customer knows has access to the secure delivery system.

When the customer provides his identification code to the retailer the retailer is able to access the service provider's data base in order to ascertain the relevant delivery address and possibly other details associated with the consumer in order to confirm that the consumer is indeed a box holder.

When the retailer has checked that the consumer is indeed a box holder associated with the system the service provider's computer, upon the request of the retailer, generates a unique delivery code associated with a particular purchase transaction which has been entered into between the customer and the retailer. This unique delivery code is sent electronically to the retailer by the service provider and the retailer ensures that this delivery code is attached in some way to the item to be delivered at the relevant warehousing facility.

The delivery person is instructed to go to the address at which the customer's box is located and upon arriving at the box inputs the delivery code to that box. This may be by way of swiping a bar code or physically inputting numbers into a keypad or otherwise. This keypad or other input device has a direct communication link to the service provider's computer. The service provider's computer then determines whether or not the box from which the transmission is coming is the correct box associated with the delivery code and if it is indeed the correct box then the service provider's computer system causes a coded message to be sent to that box

which message de-activates the lock on that box so as to permit access to the box. The delivery is therefore capable of being completed by the delivery person.

The customer subsequently opens their box to remove the delivery utilising their own unique customer access code applicable to their box. The service provider will normally not allow multiple accessing of a box in response to one unique delivery code.

The communication means associated with the box are capable of transmitting to the service provider a record of each time the box is opened by the customer in response to a unique customer code or auxiliary accessing means such as a key and the code which was utilised to open the box. In this way the service provider can confirm when a delivery is made and also if necessary when a delivery is actually removed from the box by a customer. These details or selected parts of these details may then be forwarded to the retailer and/or customer in order to confirm that the delivery has taken place.

With reference now to figure 2 there is disclosed a variation of the steps necessary to achieve a secure delivery which variation is more applicable to a business to business situation.

It should be appreciated that delivery boxes may be constructed in various ways in order to accord with the intended location or type of goods being delivered. For example a delivery box may be made to be recessed into brickwork of a building in a high density area or alternatively may be constructed so as to be freestanding as would be a mail box in a typical suburban area. The delivery box may be provided with refrigeration for example if it is intended to receive refrigerated goods. The system of the present invention however is applicable to all such embodiments and particularly the generation of a unique delivery/transaction identifier.

DATED this 10th day of March 2000.

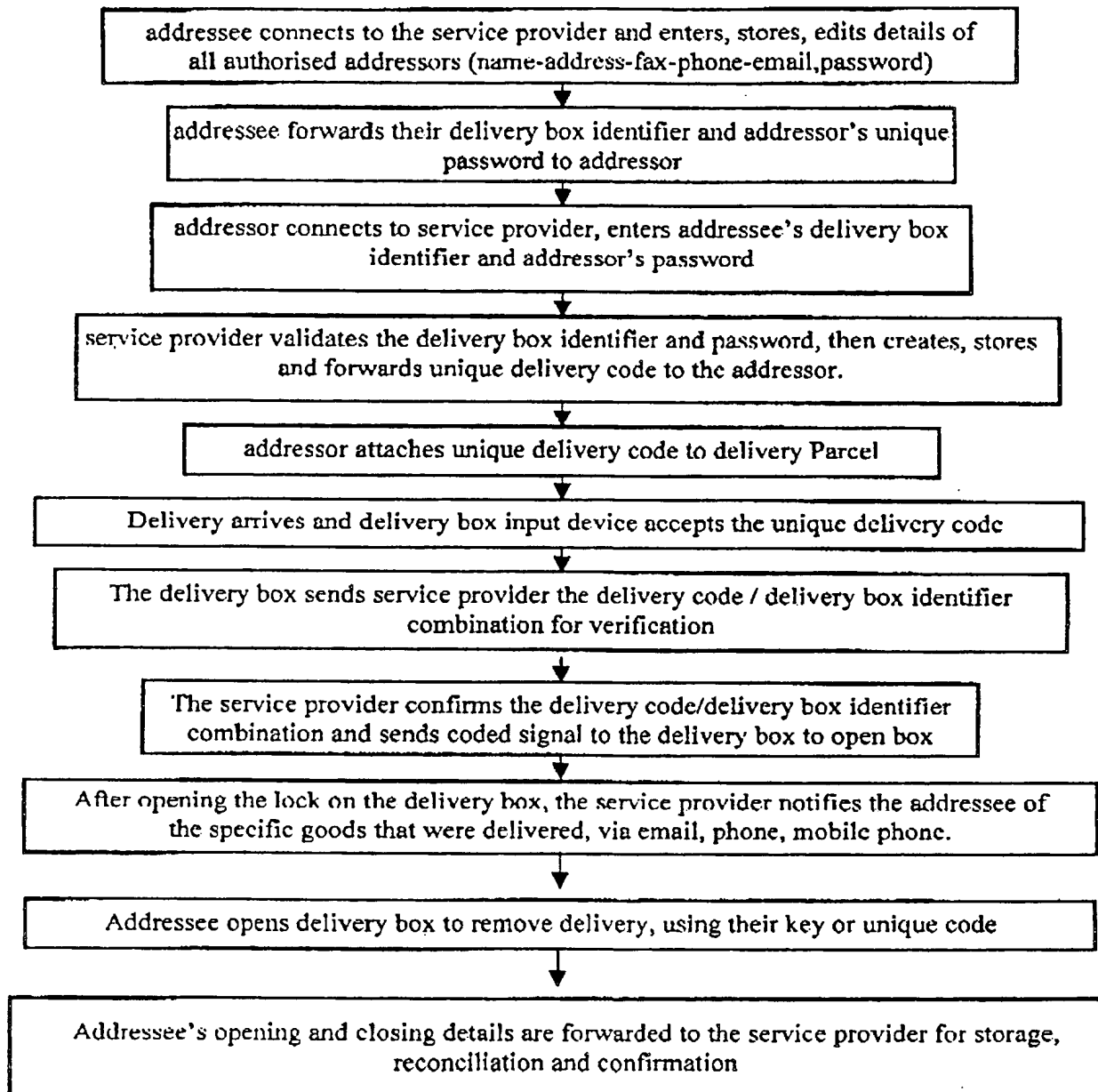
UNICOMP SOLUTIONS PTY LTD

by their Patent Attorneys

Barker Blenkinship & Associates

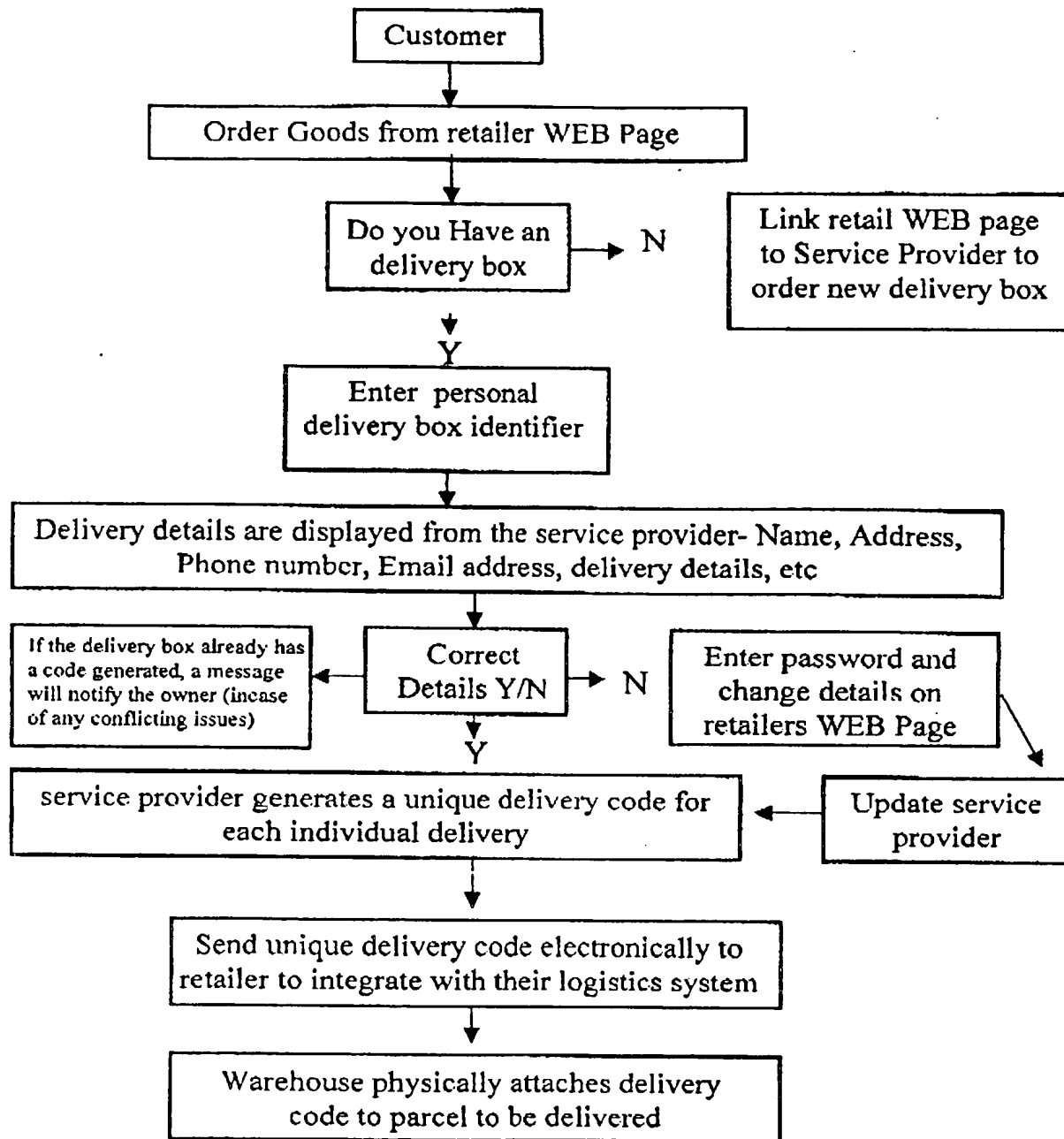
FIG 1

Business to Business eSecure Solution



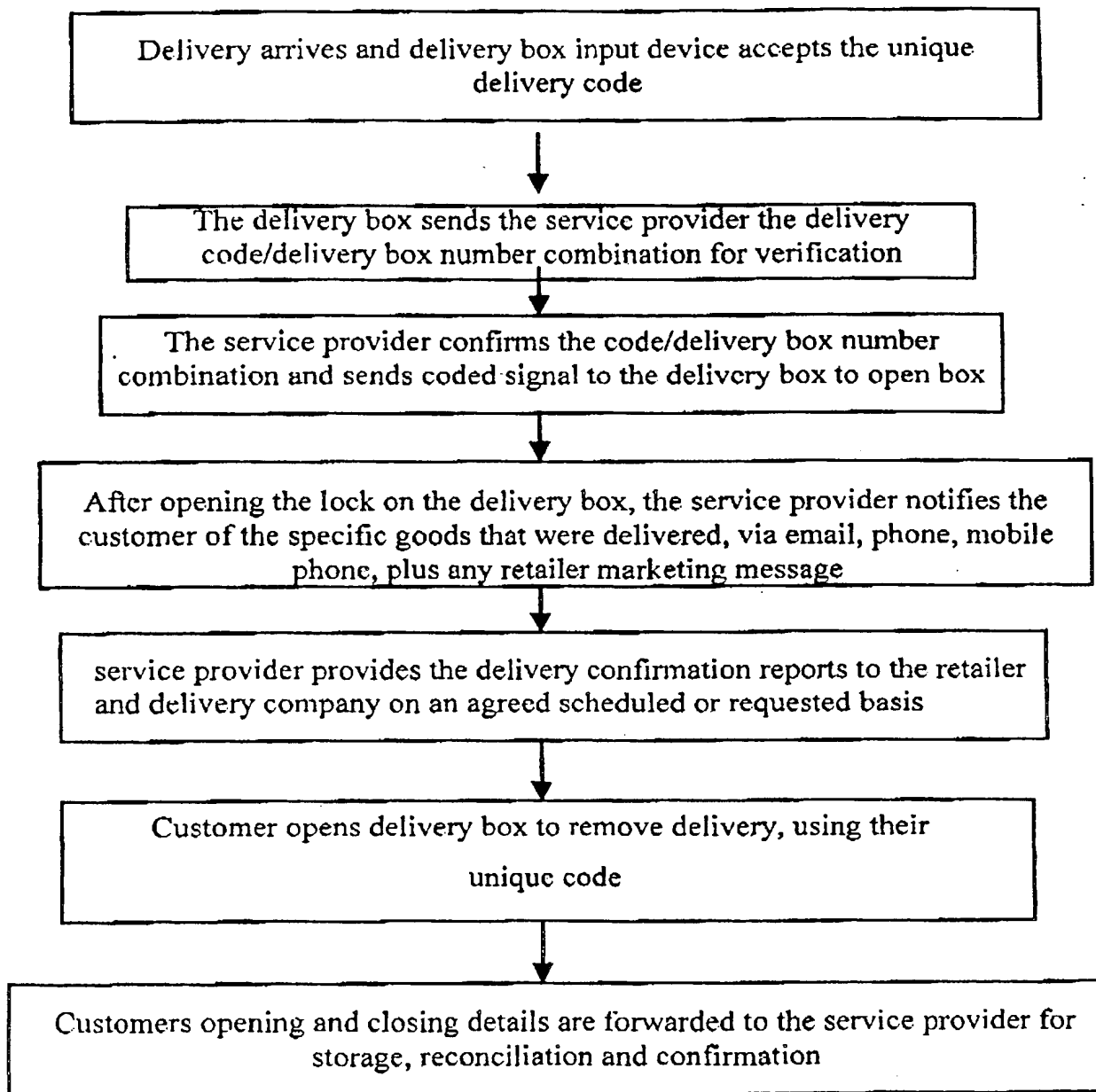
Business Flow Diagram for eSecure

Business Consumer eSecure Solution



Business Flow Diagram for eSecure

FIG 2A



Business Flow Diagram for Ebox